AMENDMENT TO THE CLAIMS

1. (Currently Amended)   A method of identifying an estimate for a clean signal random variable representing a portion of a clean signal found within a noisy signal, the method comprising:

        defining a mapping random variable as a function of at least the clean signal random variable and a noise random variable;

        determining a model parameter that describes at least one aspect of a distribution of values for the mapping random variable, wherein determining a model parameter comprises approximating a function of the mapping random variable using a Taylor series expansion; and

        using the model parameter to determine an estimate for the clean signal random variable from an observed value.

2. (Original)   The method of claim 1 wherein defining the mapping random variable as a function of at least the clean signal random variable and the noise random variable comprises defining the mapping variable as a ratio of the clean signal random variable to the noise random variable.

3. (Original)   The method of claim 2 wherein determining a model parameter comprises determining a mean of the mapping random variable.

4. (Original)   The method of claim 1 further comprising using the model parameter to determine an estimate of the mapping random variable.

5. (Original) The method of claim 4 wherein defining the mapping random variable as a function of at least the clean signal random variable and the noise random variable comprises defining the mapping variable as a ratio of the clean signal random variable to the noise random variable.

6. (Canceled)

7. (Currently Amended) The method of claim 1~~6~~ further comprising performing an iteration comprising steps of:

        calculating a mean for the mapping random variable using a Taylor series expansion;

        setting a new expansion point for the Taylor series expansion equal to the mean of the mapping random variable; and

        repeating the iteration steps using the new expansion point.

8. (Original) The method of claim 1 further comprising:

        determining a clean signal model parameter that describes at least one aspect of a distribution of values for the clean signal random variable; and

        using the clean signal model parameter to determine the estimate for the clean signal random variable.

9. (Original) The method of claim 8 further comprising:

        determining a noise model parameter that describes at least one aspect of a distribution of values for the noise random variable; and

        using the noise model parameter to determine the estimate for the clean signal random variable.

10. (Original) The method of claim 9 wherein determining the noise model parameter comprises determining the noise model parameter from noise estimates collected from the noisy signal.

11. (Currently Amended) A computer-readable storage medium storing~~having~~ computer-executable instructions for performing steps comprising:

> defining a random variable as a function of a signal-to-noise ratio variable;
>
> determining a mean~~distribution parameters~~ for a distribution of the signal-to-noise ratio variable based on the defined function; and
>
> using the mean~~distribution parameters~~ to determine an estimate of a value for the signal-to-noise ratio variable for a frame of an observed signal.

12. (Currently Amended) The computer-readable storage medium of claim 11 wherein the random variable comprises a clean signal random variable representing a portion of a clean signal.

13. (Currently Amended) The computer-readable storage medium of claim 11 wherein the random variable comprises a noise signal random variable representing a noise in an observed signal.

14. (Currently Amended) The computer-readable storage medium of claim 11 wherein defining a random variable further comprises defining the random variable as a function of an observed value.

15. (Currently Amended) The computer-readable storage medium of claim 11 wherein determining a mean~~distribution parameter~~ further comprises approximating at least a portion of the defined function with an approximation function.

16. (Currently Amended) The computer-readable storage medium of claim 15 wherein the approximation function comprises a Taylor series approximation.

17. (Currently Amended) The computer-readable storage medium of claim 16 wherein determining a mean~~distribution parameter~~ further comprises performing an iteration.

18. (Currently Amended) The computer-readable storage medium of claim 17 wherein performing an iteration comprises performing steps of:

> using the Taylor series approximation to determine a mean for the signal-to-noise ratio;
>
> setting a new expansion point equal to the mean for the signal-to-noise ratio; and
>
> repeating the step of using the Taylor series approximation to determine a mean while using the new expansion point.

19. (Currently Amended) The computer-readable storage medium of claim 11 further comprising using the mean~~distribution parameter~~ to determine an estimate of the random variable.

20. (Currently Amended) The computer-readable storage medium of claim 19 wherein the random variable is a clean signal random variable representing a portion of a clean signal.

21. (Currently Amended) The computer-readable storage medium of claim 11 wherein determining a mean~~distribution parameter~~ further comprises determining the mean~~distribution parameter~~ based on a model parameter that describes a distribution of clean signal values, each clean signal value representing a portion of a clean signal.

22. (Currently Amended) The computer-readable storage medium of claim 11 wherein determining a mean~~distribution parameter~~ further comprises determining the mean~~distribution parameter~~ based on a model parameter that describes a distribution of noise values.

23. (Currently Amended) The computer-readable storage medium of claim 22 further comprising determining the mean~~model parameter~~ from an observed signal.

24. (New) A computer-readable storage medium storing computer-executable instructions for performing steps comprising:

> defining a random variable as a function of a signal-to-noise ratio variable;
>
> determining distribution parameters for the signal-to-noise ratio based on the defined function wherein determining a distribution parameter comprises approximating at least a portion of the defined function with a Taylor Series approximation; and
>
> using the distribution parameters to determine an estimate of the signal-to-noise ratio.